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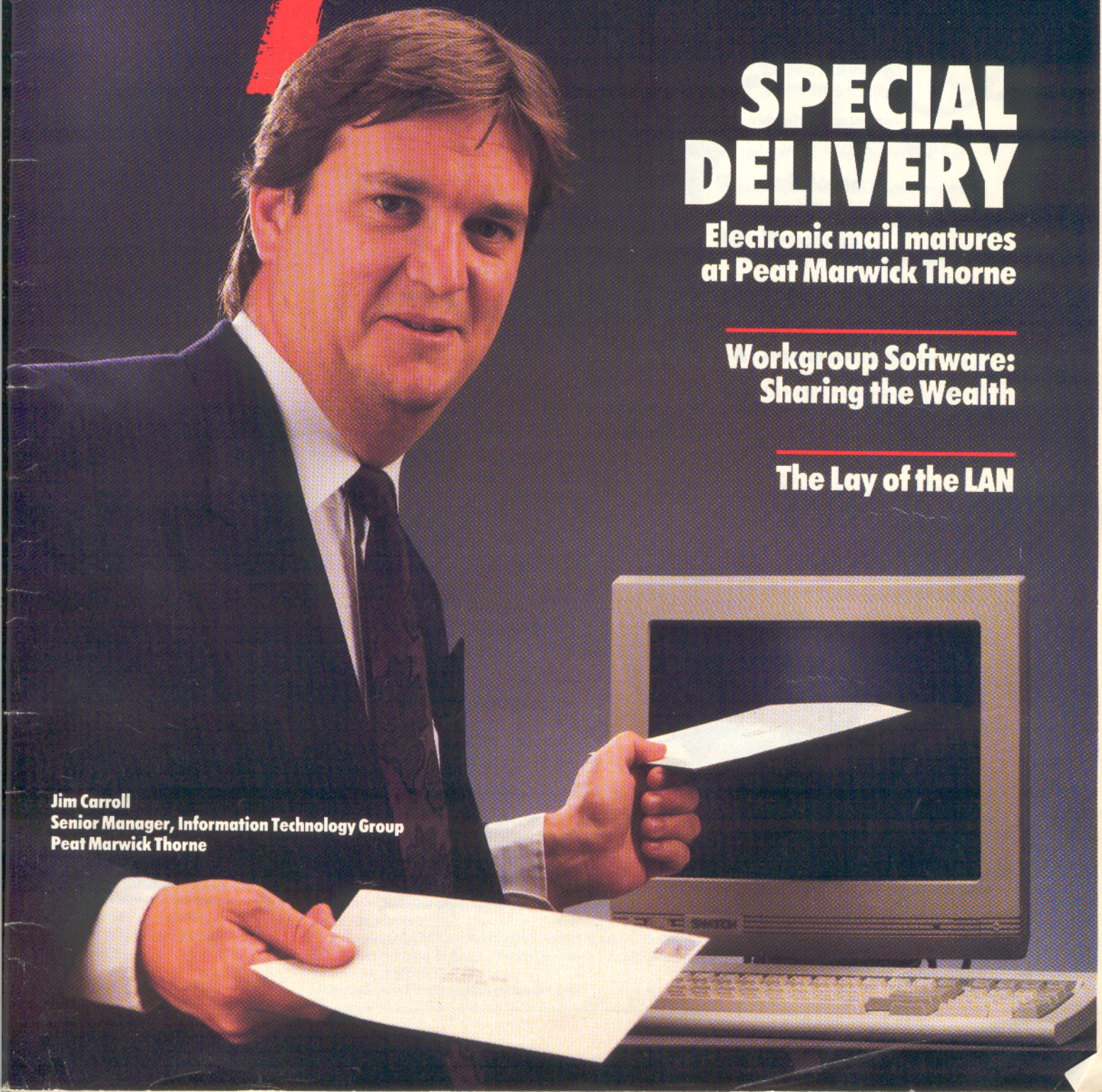
SPECIAL DELIVERY

Electronic mail matures at Peat Marwick Thorne

Workgroup Software: Sharing the Wealth

The Lay of the LAN



Jim Carroll
Senior Manager, Information Technology Group
Peat Marwick Thorne

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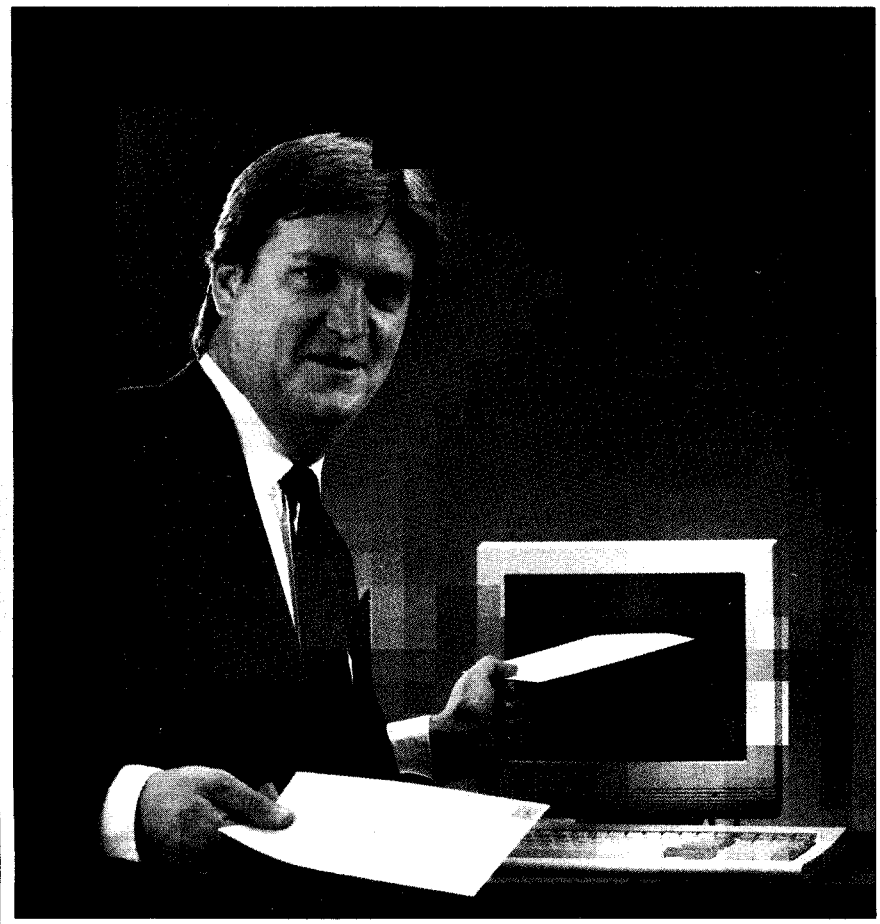

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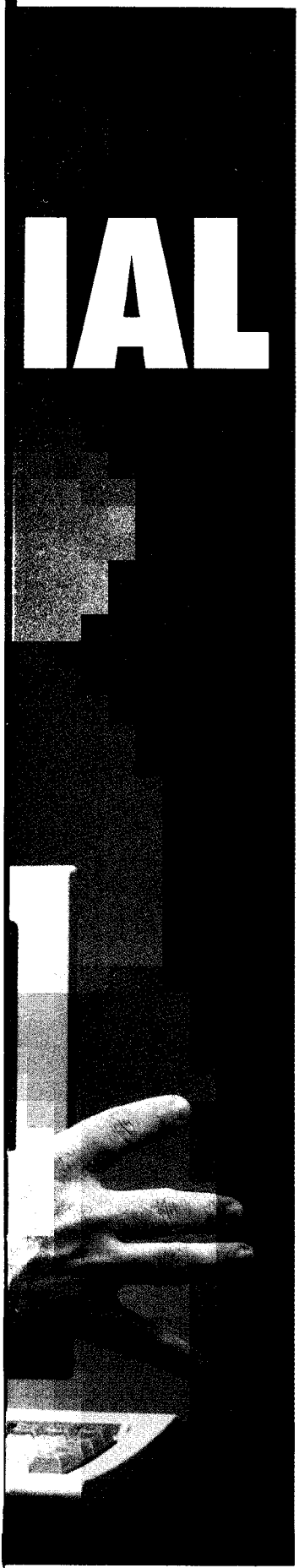
JIM CARROLL EXPECTS E-MAIL TO HELP WITH HIS FIRM'S RECENT MERGER.

PHOTOGRAPHY BY RON KATZ



SPECIAL REPORT

IAL DELIVERY

For Peat Marwick Thorne, electronic mail allows users across the country to pass on vital messages and pool resources – and avoid the vagaries of Canada Post.

by Ed Bishop

Jim Carroll just smiles at the thought of a Canadian postal strike. But he can afford to be complacent. While most companies depend on Canada's notoriously unreliable crown corporation to deliver vital information, Carroll has found a way to sever the umbilical cord. For five years he's co-ordinated the internal electronic mail messaging service used by Canadian accounting firm Thorne Ernst and Whinney. Now, neither snow nor rain nor gloom of night – nor Canada Post itself – can stop the mail from getting through.

Success did not come overnight, however. When Carroll first helped introduce e-mail at Thorne in 1984, people were suspicious of the technology. "E-mail involves computers and software," says Carroll. "(People think) it's the work of the devil." Even today, he can't say he's won everybody over. But with 625 employees from about 55 offices across Canada using the e-mail messaging network, he knows he's on the right track. Now, following a recent merger with Peat Marwick that's made Peat Marwick Thorne Canada's largest accounting firm, the number of network users is about to go through the roof.

The Washington-based Electronic Mail Association defines e-mail as "the non-interactive communication of text, data, image or voice messages between a sender and designated recipients by systems utilizing telecommunications links." In its simplest form, e-mail lets computer users send messages to one another over phone lines without having to lick a stamp or punch a telephone pad. A user in Moncton, N.B., can send a memo to a colleague in Vancouver without leaving his terminal, regardless of the time of day. To receive the message, the co-worker in Vancouver just accesses his electronic mailbox. Theoretically, all this can take place in a matter of minutes.

At Thorne, e-mail has come a long way since the early days of 1984. In fact, just prior to the merger with Peat Marwick, Carroll was responsible for a messaging network that extended around the globe, linking offices in Britain, Europe, Australia and the U.S. "At our peak before the merger, we had 1,800 e-mail users in 22 countries throughout the world," he says. But now Thorne's international offices run their own e-mail systems.

Still, in Canada alone the firm operates two Wang VS 100 minicomputers that automatically send and receive messages. In addition, a fleet of 2,000 IBM compatible and Apple Canada Inc. Macintosh microcomputers access the network daily. Mobile staff equipped with Toshiba of Canada Ltd. laptops also use the system regularly from the field. In all, the company spends about $30,000 a month on its e-mail network. And that figure merely accounts for the 4,000 to 6,000 pages worth of messages sent during an average month. It doesn't include the salaries of Carroll and five others who run the e-mail department.

With volume like this, it's no wonder the

firm's e-mail application is viewed as ground breaking. "We've been told by the vendors we deal with we're leading edge," he says. "(They tell us) we've been operating and doing something that other companies will only be hitting years from now."

But e-mail went over rough ground before it finally took flight at Thorne. Carroll says electronic mail got started because the national office needed to pass vital information along to the 55 regional offices as quickly as possible. If the federal government suddenly passed a new tax law, for example, any delay in getting the message out to each accountant located across Canada could result in lost revenue.

"In the old days, we'd have to have somebody stuff 55 envelopes and put them in the mail," says Carroll. "We had the need to get information out quickly and efficiently to all those 55 offices, and traditional methods just weren't working." E-mail seemed the only logical alternative.

So Carroll and fellow e-mail advocates Don Jewell, senior manager of the micro lab, and Calgary partner Bill Detlessen developed a plan for a coast to coast network. But first they had to sell senior management on the idea – which Carroll says wasn't too difficult. He recalls convincing John Palmer, Thorne's executive partner at the time, of the need for e-mail by showing him what such links could do. Palmer was sold immediately. "So (e-mail) was established really as an executive mandate," says Carroll.

Having won the necessary backing, Carroll's group set up an e-mail network using iNet 2000, a public messaging service provided by the member companies of Telecom Canada. Carroll says the group chose a public carrier for the internal system (which they rechristened EWiNet) because it gave them freedom to use a variety of computer equipment.

With private e-mail networks, users are restricted to using the same microcomputers and software. E-mail that runs on a Mac or an AppleTalk LAN simply won't talk to an IBM micro or DOS-based network – at least not without a "gateway" based on the X.400 protocol, an international standard for electronic messaging. Carroll says Thorne was one of the first non-technical organizations in Canada to use X.400. But it was so technical and difficult to operate, the firm stopped using it. People began relying on the fax machine to get their messages through. By providing the needed connectivity, iNet promised to eliminate that concern.

With Thorne's system, users enter a message from their terminal and send it via modem to an appropriate mailbox stored in a Tandem Computer Corp. non-stop processor owned by the phone company. Because there's virtually no limit to the number of mailboxes available on the mainframe, one message can be sent to many users simultaneously using a pre-set mailing list. Recipients access their mailboxes by connecting via modem to the mainframe. Nothing could be simpler.

Or so Carroll thought. Unfortunately, except for the national directors who regularly communicated with the regional offices, the rest of the firm didn't find it simple. Before long, Carroll and his group found themselves facing a wall of resistance. Not only had they failed to demonstrate a need for e-mail, the mechanics involved in sending and receiving messages proved too technical, even without X.400.

When Carroll brought e-mail to Thorne, people were suspicious. 'E-mail involves computers and software,' he says. '(People think) it's the work of the devil.'

For one thing, users had to access the system by following a complicated set of on-line procedures. Carroll says his group was so wrapped up in the technology, they forgot about the user who had to enter the meaningless commands. "In the early days our focus was on the technology," he says. "The best software, the best (microcomputers). We thought we could just push it out there. That's how we got ourselves into trouble. We just dropped it on everyone and said, 'Here it is. You can do all these wonderful things.' We didn't solve individual needs or problems."

That led to what Carroll calls a chicken-and-egg scenario. The technology hadn't caught on, so people weren't reading their mailboxes because they weren't expecting messages. And people weren't sending messages because no one was checking their mail.

To break the vicious circle, Carroll's group had to do two things. First, they had to "bang people on the head to get them to read their mailboxes." But before doing that, they had to make sending messages on the network as easy as sending a fax or picking up the phone. The iNet system from Telecom Canada simply couldn't deliver that – even after extensive training.

"In the beginning, people did have to learn how to use e-mail," says Carroll. "And it was very frustrating for them. We had self-study programs, we provided seminars – a number of different methods. But because it still wasn't as simple as putting something into a fax machine, a lot of people rebelled against it."

So Carroll and his group went to work. After looking around, they called in Teal Communications, a software developer in Vancouver. Carroll wanted to customize a software package that would eliminate the difficulty of accessing the network. The arrangement worked. Teamed with Carroll's department, Teal came up with a "front-end" package designed to automate the sending and receiving of messages. (The package was so good, Telecom Canada just released their own version in October – four years after Thorne pioneered the system.)

Instead of making the user access the Telecom mainframe directly, Teal designed the program to work transparently from each microcomputer. By selecting commands from a menu, users now direct the software to go into the iNet system, retrieve the contents of the mailbox and save all messages to the micro for later viewing. The user sees none of this taking place and never has to deal with complicated on-line commands. The program even hangs up the phone automatically.

The software provides other benefits as well. Because the system is so easy to use, Carroll says they reduced the time it takes to learn e-mail from days or weeks to a matter of hours. Users can even learn from fellow workers, rather than from an e-mail specialist. That made a tremendous difference.

For Jennifer Wilkie, the program's simplicity made her job easier. As manager of the firm's national accounting and auditing group, she uses the system regularly to send

messages across the country and to conduct information searches. She also checks her mail box three or four times a day. When she came to the firm only two months ago, she'd had very little exposure to microcomputers – and none whatsoever to e-mail. She admits she was a little uncomfortable at first. "I was skeptical because (e-mail) was a new experience. I was skeptical of its capability." But after spending an hour learning the software program, she found the adjustment a lot easier than expected. "I still haven't learned the full capabilities," she admits. But she believes her job will become even easier when she does.

But Carroll says other factors also helped e-mail gain company-wide acceptance. Like the use of local area networks (LANs) throughout the firm. Thorne now has close to 50 LANs set up in various offices across Canada. Most are equipped with internal e-mail packages that let users exchange information within the office. No one has to sell them on the benefits of e-mail – it's something they use on a daily basis, Carroll says. He believes this experience with LANs will strengthen Thorne's national e-mail network.

"The person in Moncton may not have the need to communicate with *everyone* in the firm, but he does have the need to communicate with everyone in his office. So the arrival of the LAN in that office will suddenly give him the need for e-mail. That will bring everyone else into the e-mail world. What we have to do, and where our efforts are going to concentrate in the years to come, will be to link all those individual electronic mail networks into a big firm-wide network."

The benefits of having a network that everyone can access are obvious to Carroll. For one thing, people are more inclined to share information, regardless of where they're located. And that can help make the firm more cohesive. "We're 55 offices (scattered) across the country in various regions and so on," says Carroll. "When you're on the network, people aren't regions, they're mailboxes. It doesn't matter where they are. So that opens up the communications."

Overall, that's had a positive impact on the culture of the organization, especially in the way people relate to each other. "E-mail does tend to break down the traditional hierarchy. I can sit here and send a message to anybody in the firm – it could be at any level. I can't do that with a paper memo. (E-mail) leads to more informality through the network. More informality to communications. It sounds silly, but it tends to make people warmer in their communications with each other – because of the decrease in formality."

But more importantly, e-mail lets the company pool its resources and share vital information quickly. Say an accountant in Halifax encounters an unusual taxation problem that would take hours of research to solve. "What we find happening through (e-mail) now," Carroll says, "is that the accountant will summarize the tax problem and send it out to the tax mailing list on the network so the 55 or 100 tax specialists across the country get that question. Maybe one out of these 100 people had that situation before and can tell Halifax what they did. Well, our business is professional services, and suddenly (e-mail has) brought to us a means whereby we can more easily tap the combined knowledge of the firm."

Public e-mail vendors like Dialcom and the members of Telecom Canada have failed to recognize the growing need for businesses to link their LAN sites into one network.

In the near future, tapping that combined expertise may prove somewhat difficult. Suddenly, with the addition of Peat Marwick, the firm has almost doubled in size. Before Carroll can ensure the enlarged network will work, there are a few problems he has to iron out. For one thing, Peat Marwick runs its own Mac-based e-mail system. And no one from that firm is hooked up to Thorne's network.

Carroll says connecting the two networks is important to the success of the merger. Fortunately, EWiNet (soon to be renamed PMT-Link) gives the firm a short-term means of creating one large e-mail system. Because Telecom Canada solves the Mac versus IBM connectivity problem at its end, neither network needs to be modified in order to pass messages along.

However, Carroll feels something more permanent needs to be done for e-mail to succeed. Like creating a network that links the many LAN sites scattered throughout the firm. "In terms of making e-mail work," he says, "(interconnectivity) is critical. If we don't solve that LAN problem, we'll stumble and fall in e-mail."

Carroll says there are two ways to proceed. The firm can link up each LAN site in a chain, so that messages would be passed from one network to another, relay style. Or each site can be linked indirectly through a common carrier, which means users can reach one another without having to pass the message along the network.

Carroll is already sold on the second method. Public carriers such as Telecom members or Dialcom already have an established network with links throughout the country. And the potential for connecting with other international e-mail networks is present right from the start. Not so with the daisy chain system.

Still, Carroll is not completely happy with public e-mail carriers. He says companies like those in Telecom Canada haven't recognized the growing need to link individual LAN sites. But for now, they're the only game in town. So Carroll expects to set up PMT-Link using one of the public vendors. In the meantime, the firm will have to wait to enjoy the full benefits of the merger – like instant access to the accumulated expertise of some 4,900 employees.

"I think e-mail will be a vehicle in the years to come for what I would call our 'professional experiences' network," says Carroll. If someone does work that is truly precedent-setting, "we want somehow to make that expertise and knowledge available to the rest of the firm. I think e-mail will begin to be a vehicle or the pipeline to start accumulating that information."

With two networks instead of one to deal with, Carroll has his work cut out for him. But now that e-mail has gained acceptance throughout the firm, the hardest part of his job is over. If nothing else, Carroll has shown the people at Peat Marwick Thorne that *some* messaging services do run smoothly. Now if only he could convince Canada Post to adopt his system.

***Ed Bishop** is Associate Editor of **OA** Magazine.*